

## T01D06 - Classwork II: Balancing Equations

Name KEY

Balance each of the correctly written equations or else! Remember only coefficients can be manipulated. Subscripts [unless known to be incorrect] cannot be changed.

1.  $\text{Al (s)} + \text{Cl}_2 \text{ (g)} \longrightarrow \text{AlCl}_3 \text{ (s)}$   
 $\textcircled{2} \quad \textcircled{3} \quad \textcircled{2}$
2.  $\text{N}_2 \text{ (g)} + \text{H}_2 \text{ (g)} \longrightarrow \text{NH}_3 \text{ (g)}$   
 $\textcircled{1} \quad \textcircled{3} \quad \textcircled{2}$
3.  $\text{C}_6\text{H}_6 \text{ (l)} + \text{O}_2 \text{ (g)} \longrightarrow \text{H}_2\text{O (g)} + \text{CO}_2 \text{ (g)}$   
 $\textcircled{2} \quad \textcircled{15} \quad \textcircled{6} \quad \textcircled{12}$
4.  $\text{Al (s)} + \text{O}_2 \text{ (g)} \longrightarrow \text{Al}_2\text{O}_3 \text{ (s)}$   
 $\textcircled{4} \quad \textcircled{3} \quad \textcircled{2}$
5.  $\text{SiO}_2 \text{ (s)} + \text{C (s)} \longrightarrow \text{Si (s)} + \text{CO (g)}$   
 $\textcircled{1} \quad \textcircled{2} \quad \textcircled{1} \quad \textcircled{2}$
6.  $\text{Fe (s)} + \text{H}_2\text{O (g)} \longrightarrow \text{Fe}_3\text{O}_4 \text{ (s)} + \text{H}_2 \text{ (g)}$   
 $\textcircled{3} \quad \textcircled{4} \quad \textcircled{1} \quad \textcircled{4}$
7.  $\text{B}_2\text{O}_3 \text{ (s)} + \text{HF (l)} \longrightarrow \text{BF}_3 \text{ (g)} + \text{H}_2\text{O (l)}$   
 $\textcircled{1} \quad \textcircled{6} \quad \textcircled{2} \quad \textcircled{3}$
8.  $\text{BF}_3 \text{ (g)} + \text{H}_2\text{O (l)} \longrightarrow \text{HF (l)} + \text{H}_3\text{BO}_3 \text{ (s)}$   
 $\textcircled{1} \quad \textcircled{3} \quad \textcircled{3} \quad \textcircled{1}$
9.  $\text{H}_3\text{BO}_3 \text{ (s)} \longrightarrow \text{B}_2\text{O}_3 \text{ (s)} + \text{H}_2\text{O (l)}$   
 $\textcircled{2} \quad \textcircled{1} \quad \textcircled{3}$
10.  $\text{NaNO}_3 \text{ (s)} + \text{H}_2\text{SO}_4 \text{ (l)} \longrightarrow \text{Na}_2\text{SO}_4 \text{ (s)} + \text{HNO}_3 \text{ (g)}$   
 $\textcircled{2} \quad \textcircled{1} \quad \textcircled{1} \quad \textcircled{2}$
11.  $\text{CaF}_2 \text{ (s)} + \text{H}_2\text{SO}_4 \text{ (l)} \longrightarrow \text{CaSO}_4 \text{ (s)} + \text{HF (g)}$   
 $\textcircled{1} \quad \textcircled{1} \quad \textcircled{1} \quad \textcircled{2}$
12.  $\text{N}_2\text{O (g)} \longrightarrow \text{N}_2 \text{ (g)} + \text{O}_2 \text{ (g)}$   
 $\textcircled{2} \quad \textcircled{2} \quad \textcircled{1}$

